

Application S/N 10/607,639
Amendment Dated: July 25, 2005
Response to Office Action dated: April 28, 2005

CE10967JAI016

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented) An electronic device for playing audio at user selectable rates comprising:

an audio output module coupled to a single circular fixed-length outbound audio buffer for playing audio therefrom through a speaker, wherein the audio is stored as a series of sequential time-based audio samples, which are portioned into sequential frames;

a first modulo pointer for modulo indexing into the circular fixed-length outbound audio buffer where a first portion of audio samples is indexed;

a second modulo pointer for modulo indexing into the circular fixed-length outbound audio buffer where a second portion of the audio samples is indexed so that the first portion and the second portion of the audio samples are sequential in time;

a cross correlation function for determining a position of maximum correlation between the first portion of the audio samples and the second portion of the audio samples;

a third modulo pointer for modulo indexing into the circular fixed-length outbound audio buffer at the position of maximum correlation; and

a SOLA (Synchronized OverLap and Add) function with a selectable rate variable, the SOLA function operating on the first portion of the audio samples and the second portion of the audio samples with an output of the SOLA function being written

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in the circular fixed-length outbound audio buffer at a starting position of the third modulo pointer.

2. (original) The device of claim 1, further comprising:

an audio loopback path to present audio received from a user via an audio input module to the circular fixed-length outbound audio buffer of the audio output module so that audio is capable of being heard by a user.

3. (original) The device of claim 2, wherein the audio output module includes:

a vocoder for detecting a word rate in the audio loopback path using at least one of:

an energy decision metric;

a voicing decision metric; and

a tonality measure.

4. (original) The device of claim 3, wherein the word rate is used to set the selectable rate variable.

5. (original) The device of claim 1, further comprising:

a user input interface for receiving a user selection for adjusting the selectable rate variable.

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6. (original) The device of claim 1, further comprising a receiver for receiving the selectable rate variable from a second device.
7. (previously presented) The device of claim 5, wherein the user input interface for receiving a user selection includes a selection for increasing the selectable rate variable of audio loopback and a selection for decreasing the selectable rate variable of audio loopback.
8. (previously presented) The device of claim 1, further comprising:
a copying function for inserting a copy of the first portion of the audio samples in between the first portion and the second portion of the audio samples so as to be sequential in time there between.
9. (canceled)
10. (canceled)
11. (canceled)
12. (canceled)
13. (canceled)

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14. (canceled)

15. (previously presented) A computer readable medium containing programming instructions for executing on an electronic device with an audio output module, the programming instructions comprising:

storing as a series of sequential time-based audio samples, which are portioned into sequential frames in a single circular fixed-length outbound audio buffer for playing audio therefrom through a speaker;

indexing into the circular fixed-length outbound audio buffer with a first modulo pointer where a first portion of audio samples is indexed;

indexing into the circular fixed-length outbound audio buffer with a second modulo pointer to a second portion of the audio samples is indexed so that the first portion and the second portion of the audio samples are sequential in time;

determining a position of maximum correlation between the first portion of the audio samples and the second portion of the audio samples;

indexing into the circular fixed-length outbound audio buffer with a third modulo pointer to the position of maximum correlation; and

executing a SOLA (Synchronized OverLap and Add) function with a selectable rate variable, the SOLA function operating on the first portion of the audio samples and the second portion of the audio samples with an output of the SOLA function being written in the circular fixed-length outbound audio buffer at a starting position of the third modulo pointer.

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16. (original) The computer readable medium according to claim 15, further comprising
- receiving via a user input interface a user selection for adjusting the selectable rate variable.
17. (original) The computer readable medium according to claim 15 further comprising: receiver for receiving a rate variable from a second device.